



U.S. Fish & Wildlife Service

## Facts and Q&A about the Proposed Critical Habitat Designation for Vernal Pool Fairy Shrimp in Oregon

### Vernal Pools:

Vernal pools are seasonally flooded depressions found on soils with an impermeable layer such as a hardpan, claypan or volcanic basalt. The impermeable layer allows the pools to fill with water during the winter rains. Vernal pools often fill and empty several times during the rainy season. In the spring, wildflowers grow in colorful circles following the receding shoreline of the pools. By early summer, the water has evaporated and the pools appear brown and barren. Only plants and animals that are adapted to this cycle of wetting and drying can survive in vernal pools over time.

### Vernal Pool Crustaceans:

**Fairy shrimp** have delicate elongated bodies, large stalked compound eyes and 11 pairs of swimming legs. They swim or glide gracefully upside-down by means of complex beating movements of the legs that pass back and forth in a wave-like manner. They feed on algae, bacteria, protozoa and bits of detritus. Females carry their eggs in a brood sac on their abdomen. Eggs are either dropped to the pool bottom or remain in the brood sac until the female dies and sinks. Eggs containing dormant embryos are known as cysts and are capable of withstanding heat, cold and prolonged dry periods. The cyst bank in the soil may contain cysts from several

years of breeding. As the vernal pools refill with rainwater, in the same or subsequent seasons, some of the cysts may hatch. Early stages of the fairy shrimp develop rapidly into adults. These adult populations often disappear early in the season long before the vernal pools dry up

**Vernal pool fairy shrimp (*Branchinecta lynchi*)** were listed as a threatened species in 1994. Vernal pool fairy shrimp can be distinguished from other fairy shrimp by the presence and size of several bulges on the male's antenna and by the female's short, pear-shaped brood pouch. Vernal pool fairy shrimp can be found across the Central Valley of California from Shasta County to Tulare County and the central and southern coast ranges from northern Solano County to Ventura County. Additional populations have been found in southern California. In Oregon, vernal pool fairy shrimp are only found in a 32- square mile area known as the Agate Desert in Jackson County, north of Medford. Although the vernal pool fairy shrimp is distributed more widely than most other fairy shrimp species, it is generally uncommon throughout its range and rarely abundant where it does occur.

### *Why are vernal pool species in trouble?*

The main threat to the continued existence of

these vernal pool species is continuing loss of habitat, especially due to residential or commercial development, water supply and flood control activities, and conversion of lands to agricultural uses. Vernal pool habitat is rapidly diminishing throughout California. This conversion or use of lands containing the remaining vernal pools is expected to continue because of the desirability of and economic feasibility of building on essentially flat lands which are often close to metropolitan areas. Present estimates for the loss of vernal pool habitat in California's Central Valley range from 65-90% of its former extent. In Southern California, San Diego County has documented the loss of 90-95% of its historic vernal pool habitat. Vernal pools also are subject to threats in the form of interrupted watersheds, invasions by aggressive non-native plant species, gravel mining, fertilizer and pesticide contamination, overgrazing by livestock, off-road vehicle use and contaminated storm water runoff.

### ***What is being done to save these vernal pool species?***

The four vernal pool crustaceans gained Endangered Species Act (ESA) protection in September 1994. Conservancy fairy shrimp, longhorn fairy shrimp and vernal pool tadpole shrimp were listed as endangered and vernal pool fairy shrimp were listed as threatened. Eight vernal pool plants received ESA protection in March 1997. Hairy Orcutt grass, Sacramento Orcutt grass and Greene's tuctoria were listed as endangered and succulent owl's clover, Hoover's spurge, Colusa grass, San Joaquin Valley Orcutt grass and slender Orcutt grass were listed as threatened. Solano grass was listed as endangered in September 1978. Contra Costa goldfields was listed as endangered in 1997. Butte County meadowfoam was listed as endangered in 1992.

Since listing of the vernal pool crustaceans and plants, several vernal pool conservation planning efforts have been initiated by public agencies and

non-government organizations. For example, in 1997 the Framework Agreement for the Interagency Vernal Pool Stewardship Initiative was signed by a number of federal and state agencies. This agreement encourages coordination of vernal pool conservation efforts on a regional scale between the participating agencies.

In addition, recovery planning efforts are underway for the vernal pool species. The ESA mandates the preparation of recovery plans for listed species unless such a plan would not contribute to their conservation. Recovery plans detail the actions necessary to achieve self-sustaining, wild populations of listed species so they will no longer require protection under the ESA. A recovery plan is an advisory document. Once the recovery plan is drafted and available for public review, the Service hopes to work proactively with partners, both private and government, to recover these species.

### ***What's this critical habitat all about?***

#### **Q. What is critical habitat?**

A. Critical habitat is a term used in the Endangered Species Act. It refers to specific geographic areas that are essential for the conservation of a threatened or endangered species and that may require special management considerations. Areas not occupied by the species may be designated if these areas are essential to the conservation of the species. Critical habitat is determined using the best available scientific and commercial information about the physical and biological needs of the species. These needs include: space for individual and population growth, and for normal behavior; food, water, light, air, minerals or other nutritional or physiological needs; cover or shelter sites for breeding, reproduction and rearing of offspring, and habitat that is protected from disturbance or is representative of the historical and ecological distribution of a species.

**Q. Are all 1.7 million acres critical habitat?**

A. While we are proposing approximately 1.7 million acres of critical habitat for all the vernal pool species in Oregon and California, only 7,547 acres are proposed for designation in Oregon. Not all the areas within the broad boundaries contain the specific habitat features required by these species and therefore not all areas will require federal agencies to consult with us. We would require consultations only for actions which affect areas that contain the physical and biological features necessary to the species' survival. For example, existing houses, shopping centers and similar development do not provide specific habitat for the vernal pool species, but in some places are included in the designation in California because of limitations in our ability to map the boundaries at a finer scale.

**Q. Do listed species in critical habitat areas receive more protection?**

A. An area designated as critical habitat is not a refuge or special conservation area. Listed species and their habitats are protected by the Endangered Species Act whether or not they are in an area designated as critical habitat.

**Q. Are any of these species protected by state endangered species laws?**

A. Yes. Eight of the eleven plants have endangered status with the State of California. None of the vernal pool crustaceans have State status in California, and the vernal pool fairy shrimp has no State status in Oregon.

**Q. What protection do the vernal pool species currently receive as listed species?**

A. The Endangered Species Act forbids the import, export or interstate or foreign sale of protected animals and plants without a special permit. It also makes "take" illegal-- forbidding

the killing, harming, harassing, possessing or removing of protected animals from the wild. Federal agencies must consult with the Service to insure that projects they authorize, fund or carry out are not likely to jeopardize the continued existence of any endangered or threatened species, or result in the destruction or adverse modification of designated critical habitat.

Permits may be issued by the Service for activities that are otherwise prohibited under the Act, if these activities are for scientific purposes or to enhance the propagation or survival of the affected species, or for "take" that is incidental to otherwise lawful activities.

In addition, the Endangered Species Act requires that federal agencies not only take action to prevent further loss of a species, but also pursue actions to recover species to the point where they no longer require protection and can be delisted.

**Q. What is the purpose of designating critical habitat?**

A. Critical habitat may benefit listed species by identifying habitat that is essential to their conservation, and by making sure federal activities do not affect the long-term survival of the species.

**Q. How do you determine what areas to designate as critical habitat?**

A. Biologists consider physical and biological habitat features needed for life and successful reproduction of the species. For the vernal pool crustaceans these "primary constituent elements" are those habitat components that are essential for the primary biological needs of foraging, sheltering, reproduction and dispersal. These primary constituent elements are found in areas that support vernal pools or other ephemeral ponds and depressions and their associated watersheds.

**Q. How will the proposed designation of**

**critical habitat affect federal agencies that undertake, permit, or fund projects?**

A. Section 7 of the Endangered Species Act requires federal agencies to consult with the Service on actions they authorize, fund or carry out that may affect critical habitat. Through this consultation process, the Service can ensure that permitted actions do not change (adversely modify) critical habitat in such a way that it appreciably diminishes the value of the habitat for the conservation of the species. We also analyze federal actions to determine if they may jeopardize the existence of a listed species, regardless of whether those actions also affect the species' critical habitat.

**Q. Does the designation of critical habitat create preserves?**

A. No. The designation of critical habitat does not affect land ownership or establish a refuge, wilderness, reserve, preserve, or other special conservation area. It does not allow government or public access to private lands, and will not result in closure of private or state areas to all access or use.

**Q. What happens if my private property is designated critical habitat for these vernal pool species?**

A. The designation of critical habitat on privately-owned land does not mean the government wants to acquire or control the land. Activities on private lands that do not require federal permits or funding are not affected by a critical habitat designation. Critical habitat does not require landowners to carry out any special management actions or restrict the use of their land. However, the Act prohibits any individual from engaging in unauthorized activities that will actually harm listed wildlife.

If a landowner needs a federal permit or receives federal funding for a specific activity, the agency responsible for issuing the permit or providing the funds would consult with us to determine how the action may affect these vernal pool

species or their designated critical habitat. The Service will work with the federal agency and the private landowner to modify the project to minimize the impacts.

**Q. Is an economic analysis required as part of designating critical habitat?**

A. Yes. We must take into account the economic impact of identifying any particular area as critical habitat. We may exclude an area from critical habitat if we determine that the benefits (economic and otherwise) of excluding it outweigh the benefits of including the area as critical habitat, unless the failure to designate the area as critical habitat would result in the extinction of the species. This determination is based on the best scientific, economic and commercial information available. The economic analysis will be completed before the critical habitat designation is finalized. When the draft economic analysis is completed, we will announce its availability with a notice in the *Federal Register*, and we will open a 30 day comment period on the draft economic analysis and proposed rule at that time.

**Q. Was an economic analysis prepared when the Service listed these vernal pool species?**

A. No. Under the Act, a decision to list a species is made solely on the basis of scientific data and analysis. Critical habitat designation is the only process where economics may be taken into consideration.

**Q. Will this proposal be subjected to peer review?**

A. Yes, it will. Furthermore, in preparing the proposal the Service solicited input from local species experts throughout California and Oregon on the distribution and status of the species being considered in this proposed rule. Species experts were asked to identify important areas which would be required for survival of the species.

**Q. Is critical habitat designated for all listed**

**species?**

A. No. The Service has designated critical habitat for 132 of the 1,233 species currently listed as threatened or endangered. The Act requires us to identify critical habitat at the time a species is listed. However, in some cases, designating critical habitat may be considered “not prudent” if it would cause harm to the species, such as increasing the possibility of collection or vandalism. We may also defer critical habitat designation as “not determinable” for up to a year if we don’t have enough information to define critical habitat at the time of listing. [See ESA Sec 4(b)(6)(C)(ii)]

**Q. Why is critical habitat being proposed for these vernal pool species now?**

A. When we listed these vernal pool species, we concluded that designation of critical habitat was not prudent because such designations would not benefit these species. We were concerned that critical habitat designation would likely increase the degree of threat from vandalism.

On April 12, 2000, the Butte Environmental Council filed suit in D.C. District Court against the Service for failure to designate critical habitat for the four vernal pool crustaceans. On February 9, 2001, the District Court for the eastern district of California ordered the Service to complete a final critical habitat designation for the four species of endangered or threatened freshwater shrimp by August 9, 2001. Under a settlement between the Department of the Interior and Butte Environmental Council that was approved by the U.S. District Court in Sacramento on July 23, 2001, the Service was ordered to propose critical habitat designations for each of the 4 species of freshwater shrimp and also for 11 listed vernal pool plants, allowing for a minimum public comment period of at least 60 days, and with final designation of critical habitat on or before August 15, 2002

**Q. What lands are included in this designation?**

A. We are proposing to designate critical habitat

on approximately 1.7 million acres of federal and non-federal public lands and privately-owned lands in Oregon and California. In Oregon, 7,547 acres are proposed. The majority of areas being proposed for designation is on private land.

**Q. Are Department of Defense installations included in this proposal:**

A. Yes. Critical habitat is being proposed on lands on several Department of Defense installations in California.

**Q. What about lands where Habitat Conservation Plans (HCPs) have been approved?**

A. HCPs are not excluded from this proposal.

**Q. Are Tribal lands included in this critical habitat designation?**

A. No Tribal lands are being proposed for critical habitat designation.

**Q. How will the final designation of critical habitat affect activities for which a party has already consulted with the Service under section 7 of the Act?**

A. Federal regulations require agencies to reinitiate consultation with the Service on previously reviewed actions if critical habitat is designated after the initial consultation, and if those actions may adversely affect critical habitat. This applies only if those agencies have retained some type of involvement or control over the action, or if such involvement is authorized by law. Federal agencies may request to reinitiate consultation with us if a project is likely to affect or adversely modify proposed critical habitat.

**Q. What happens if a project is reviewed as part of a reinitiation of consultation and the Service determines it will adversely modify critical habitat?**

A. It is highly unlikely that any activity that was reviewed and permitted by the Service under section 7 of the Act, prior to the designation of critical habitat, will be changed because critical habitat is now proposed for the area. When reviewing projects under section 7, we must determine if the proposed action will “jeopardize the continued existence” of a species by asking the question, “Will the project significantly reduce the likelihood of the species’ survival and recovery?” Generally speaking, a project that will “destroy or adversely modify” critical habitat is one that will significantly reduce the value of critical habitat for the survival and recovery of the species. Regardless of whether critical habitat has been designated, we must still consider the effect a project may have on the continued existence or recovery of a listed species.

**Q. What types of activities might impact critical habitat for the vernal pool species?**

A. Activities that may destroy or adversely modify critical habitat include those that alter the primary constituent elements to the extent that the value of critical habitat for both the survival and the recovery of the vernal pool species is appreciably diminished. Activities that, when carried out, funded or authorized by a federal agency, may affect critical habitat and require that a section 7 consultation be conducted include, but are not limited to:

- Any activity, including the regulation of activities by the Army Corps of Engineers under section 404 of the Clean Water Act or activities carried out by or authorized by the U.S. Environmental Protection Agency, that could alter the suitability of the watershed, water quality or quantity to support vernal pool crustaceans or vernal pool plants or any activity that adversely affects the natural hydrologic function of the vernal pool system and/or ephemeral pond or depression;
- Road construction and maintenance,

right-of-way designation and regulation of agricultural activities, or any activity funded or carried out by the Department of Transportation or Department of Agriculture that results in discharge of dredged or fill material, excavation or mechanized land clearing of ephemeral and/or vernal pool basins;

- Sale or exchange of lands by a federal agency to a non-federal entity which could foreseeably impact the primary constituent elements of critical habitat;
- Regulation, relicensing and operation of damming or other water impoundments by the BOR, Corps, or Federal Energy Regulatory Commission that inundate habitat for vernal pool crustaceans;
- Regulation by the Federal Aviation Administration (FAA) of airport improvement or maintenance activities that could foreseeably impact the primary constituent elements of critical habitat;
- Licensing of construction of communication sites by the Federal Communications Commission on lands containing critical habitat;;
- Funding of construction or development activities by the Department of Housing and Urban Development or other agencies that destroy, fragment or degrade suitable habitat;
- Military training and maneuvers on applicable DOD lands which could foreseeably impact the primary constituent elements of critical habitat;
- Signing of contracts to deliver water by the BOR in situations where those deliveries could foreseeably impact the primary constituent elements of critical habitat; and
- Promulgation of a land use plan by a federal agency such as the BLM, USFS or DOD that may alter management practices for critical habitat.

If you have questions regarding whether specific activities will constitute adverse modification of critical habitat in Oregon, contact the Field Supervisor, Oregon Fish and Wildlife Office, 2600 S.E. 98<sup>th</sup> Avenue, Portland, OR 97266.

In California, contact the Sacramento Fish and Wildlife Office, Endangered Species Division, at 916/414-6600 or write to the office at the following address: U.S. Fish and Wildlife Service, Sacramento Fish and Wildlife Office, 2800 Cottage Way, W-2605, Sacramento, California 95825. If the critical habitat is located in Requests for copies of the regulations on listed wildlife, and inquiries about prohibitions and permits may be addressed to the U.S. Fish and Wildlife Service, Branch of Endangered Species, 911 N.E. 11th Ave, Portland, OR 97232 (telephone 503/231-2063; facsimile 503/231-6243).

**Q. Will the public be given an opportunity to comment on proposed critical habitat for these vernal pool species?**

A. Yes. We want to ensure that any final action resulting from this proposal will be as accurate and effective as possible. We are actively soliciting comments or suggestions from the public, other governmental agencies, the scientific community, industry representatives, and any other interested party. In particular, we are seeking comments regarding:

- The reasons why any habitat should or should not be determined to be critical habitat as provided by section 4 of the Act, including whether the benefits of designation will outweigh any threats to the species due to designation;
- Specific information on the amount and distribution of any of the vernal pool crustacean or vernal pool plants and what habitat is essential to the conservation of these species and why;
- Land use designations and current or planned activities in the subject areas and

their possible impacts on proposed critical habitat;

- Any foreseeable economic or other impacts resulting from the proposed designation of critical habitat, in particular, any impacts on small entities or families;
- Economic and other values associated with designating critical habitat for the vernal pool crustaceans and vernal pool plants such as those derived from non-consumptive uses (e.g., hiking, camping, bird-watching, enhanced watershed protection, improved air quality, increased soil retention, “existence values” and reductions in administrative costs); and
- Whether our approach to critical habitat designation could be improved or modified in any way to provide for greater public participation and understanding, or to assist us in accommodating public concern and comments.

We may revise this proposal to incorporate or address new information received during the comment period. We will hold the public record open for 60 days to allow anyone with information on the proposed designation to participate in this process. When the draft economic assessment is completed we will reopen the comment period for another 30 days to take comments on both the economic assessment and the proposed critical habitat designation.

**Q. What about public hearings?**

A. The Service will hold public hearings on this proposed designation. Information on selected dates and venues for the hearings will be announced at a later date.

## ***Oregon questions?***

**Please call (541-957-3474) or write to us at:**

U.S. Fish and Wildlife Service  
Roseburg Field Office  
2900 N.W. Stewart Parkway  
Roseburg, OR 97470

## ***California questions?***

**Please call (916-414-6600) or write to us at:**

U.S. Fish and Wildlife Service  
Sacramento Fish and Wildlife Office  
2800 Cottage Way, Room W-2605  
Sacramento, CA 95825